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Idaea gelbrechti Hausmann, 2003 new for Spain and Europe (Lepidoptera: Geometridae)

B. Müller

Abstract

The geometrid moth *Idaea gelbrechti* Hausmann, 2003 was found in Andalusia in the Sierra Nevada as new for Spain and Europe. This species is compared with the sister species *Idaea aversata*; differences in morphology and wing pattern are discussed. A checklist of accompanying species is given at the end of this paper.
KEY WORDS: Lepidoptera, Geometridae, *Idaea gelbrechti*, Europe, Spain.

Idaea gelbrechti **Hausmann, 2003 nueva para España y Europa (Lepidoptera: Geometridae)**

Resumen

El geométrido *Idaea gelbrechti* Hausmann, 2003 fue encontrado Sierra Nevada, Andalucía como nueva para España y Europa. Se compara esta especie con su hermana *Idaea aversata* (Linnaeus, 1758); se discuten las diferencias en morfología y dibujo alar. Se da una lista de las especies acompañantes al final de este trabajo.
PALABRAS CLAVE: Lepidoptera, Geometridae, *Idaea gelbrechti*, Europa, España.

Idaea gelbrechti **Hausmann, 2003 neu für Spanien und Europa (Lepidoptera: Geometridae)**

Zusammenfassung

Die Geometridae *Idaea gelbrechti* Hausmann, 2003, wurde in Andalusien in der Sierra Nevada als neu für Spanien und Europa gefunden. Diese Art wird mit der Schwesternart *Idaea aversata* (Linnaeus, 1758) verglichen; Unterschiede in Morphologie und Flügelzeichnung werden besprochen. Eine Liste der Begleitfalter beschließt die Arbeit.
SCHLÜSSELWORTE: Lepidoptera, *Idaea gelbrechti*, Europa, Spanien.

Introduction

In July 2009 the author had the opportunity to investigate the fauna of geometrid moths on the southern slopes of the eastern Sierra Nevada below the National Park about 4 km south of Puerto de la Ragua pass. This work was done for three weeks under the Scientific Project of SHILAP.

Methods, results and discussion

The geometrid moths were caught by using a light trap (8 W black light) as well as being attracted to a 125 W mercury lamp combined with a white cotton sheet.

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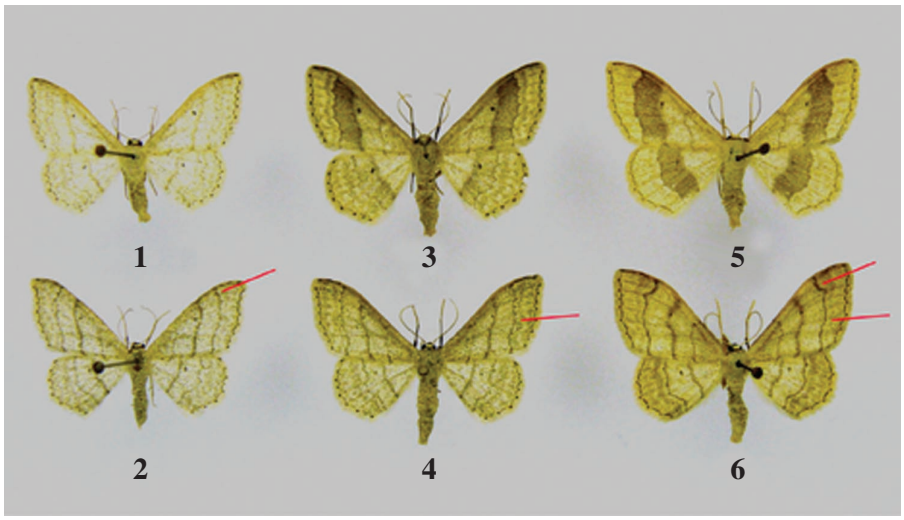
Between July 23 and 26, 2009 three females of *Idaea gelbrechti* Hausmann, 2003 came to the light. This species is new for the Iberian peninsula and Europe. Its presence in the "Sistema Penibético" suggests that this species is of Ibero-Maghrebian origin. HAUSMANN (2003) described *Idaea gelbrechti* on the basis of specimens from the vicinity of Ifrane in the Middle Atlas in Morocco collected by the author. All specimens of the type series were collected at light at an altitude of 1700 to 1750 m above sea level in a mixed oak and cedar forest. The site in the Sierra Nevada is located at nearly the same altitude (1840 m above sea level) but is in an area of mountain shrubland surrounded by pine forests.

The species was reared successfully on flowers and leaves of dandelion (*Taraxacum* spec.) All pupae produced adults of a second generation between September 19 and October 26, 2009.

Idaea gelbrechti can be considered as a sister species of *Idaea aversata* (Linnaeus, 1758). Figs. 1-6 show four specimens of *I. gelbrechti* and two of *I. aversata*. Though very similar, most of the specimens of both species can be separated by looking at the wing colour and pattern. All wings of *I. gelbrechti* are speckled with many very small greyish dots, which are never found on the wings of *I. aversata*. So the wings look less homogeneous compared with *I. aversata*. There are important differences in the postmedial line on the forewings: The postmedial line of *I. gelbrechti* has (very) small outwards directed teeth on the veins; the line reaches the costa with a small curve. The postmarginal line of *I. aversata* has no teeth on the veins, it looks as a whole more distinct and near the costa is often distinctly curved inwards or angled. The ground colour of *I. gelbrechti* is paler, more ochreous (Middle Atlas) or greyish (Sierra Nevada). 20% of reared Spanish specimens of *I. gelbrechti* have a dark area between medial and postmedial line which is also often present in *I. aversata*.



Figs. 1-6.– 1. *Idaea gelbrechti* Hausmann, 2003, ♂, Paratypus, Morocco, Middle Atlas, Ifrane, September 17, 1998 ex ovo; **2.** *Idaea gelbrechti* Hausmann, 2003, ♀, Spain, Sierra Nevada, 4 km South of Puerto de la Ragua, 1840 m, July 23, 2009; **3-4.** *Idaea gelbrechti* Hausmann, 2003, ♂♂, Spain, Sierra Nevada, 4 km South of Puerto de la Ragua, 1840 m, September 24-25, 2009 ex ovo ; **5-6.** *Idaea aversata* (Linnaeus, 1758), ♂♂, Germany, Thüringen, Arnstadt, July 31, 1974 (all specimen legit Bernd Müller).

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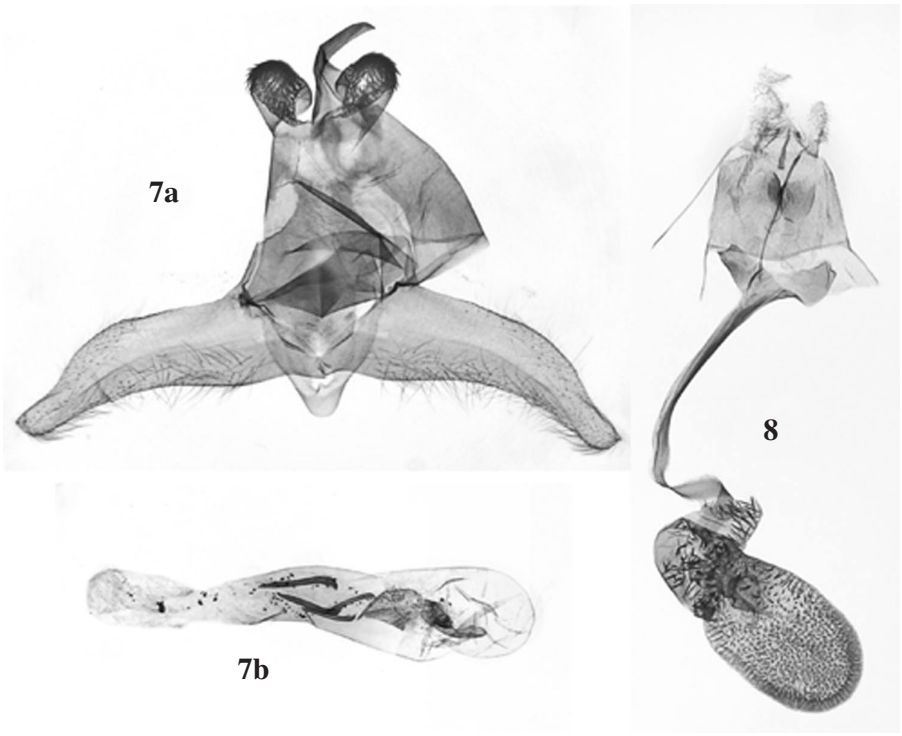
The two species also differ in genitalia structure as discussed in detail in HAUSMANN (2003).

The male genitalia of *I. gelbrechti* (figs. 7a, b) can easily be distinguished from *I. aversata* (fig. 9a, b) by the bent valva and very large spinose lobes of the gnathos. The female genitalia (figs. 8 and 10) differ mainly in the size of the funnel-shaped antrum. The antrum of *I. aversata* is less dilated. The differences in male genitalia structure are greater than in the female.



Figs. 7-8.– *Idaea gelbrechti* Hausmann, 2003, Spain, Sierra Nevada, 4 km South of Puerto de la Ragua, 1840 m, September 24-25, 2009 ex ovo; **7a.** Male genitalia without aedeagus (gen. prep. Mü. 333/09); **7b.** dto. aedeagus; **8.** Female genitalia (gen. prep. Mü. 334/09).

The geometrid moth fauna of the investigated area is very rich and variable. Above all species of the subfamily Sterrhinae are dominant during midsummer. They are present in Spain with more than 130 species (REDONDO *et al*., 2009; HAUSMANN, 2003) and form a valuable part of the Spanish fauna. 19 species of this subfamily were observed as accompanying species of *Idaea gelbrechti*.

Due to the warm climate on the southern slopes of the Sierra Nevada some species reach the greatest altitudes of their distribution. One example: During a day excursion *Idaea sericeata* (Hübner, [1813]) were observed at an altitude of 2475 m on the slopes of the Morrón Sanjuanero flying through the low vegetation in great numbers.

The following list shows the accompanying species of *Idaea gelbrechti* Hausmann, 2003:

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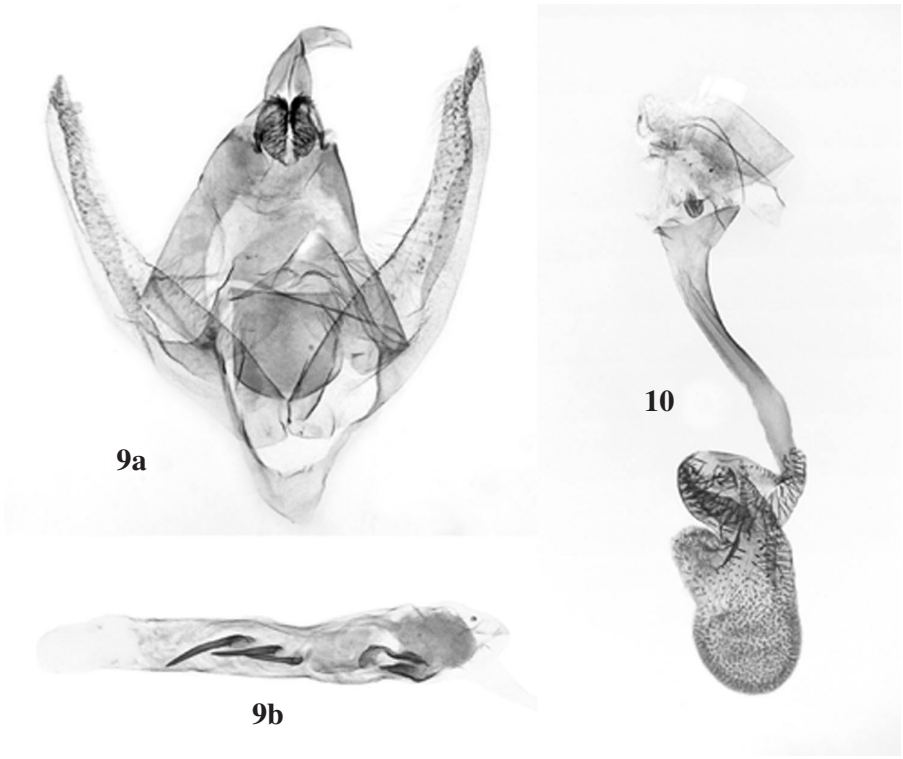

Figs. 9-10.– *Idaea aversata* (Linnaeus, 1758); **9a.** Male genitalia without aedeagus (gen. prep. Mü. 332/09, Germany, Berlin-Wilhelmshagen, July 04, 1970); **9b.** dto. aedeagus; **10.** Female genitalia (gen. prep. Mü. 335/09, Germany, Brandenburg, Flecken Zechlin, June 27, 2009).

Checklist of accompanying species

ENNOMINAE

Nychiodes hispanica Wehrli, 1929; *Tephronia oranaria castiliaria* Staudinger, 1892; *Ennomos alniaria* (Linnaeus, 1758); *Crocallis albarracina* Wehrli, 1940; *Ourapteryx sambucaria* (Linnaeus, 1758); *Charissa obscurata* ([Denis & Schiffermüller], 1775); *Ch. crenulata* (Staudinger, 1871); *Aspitates gilvaria* ([Denis & Schiffermüller], 1775).

HEMITHEINAE

Pseudoterpna coronillaria (Hübner, [1817]); *Phaiogramma etruscaria* (Zeller, 1849); *Thalera fimbrialis* (Scopoli, 1763).

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STERRHINAE

Idaea sardoniata (Homberg, 1912); *Id. mediaria* (Hübner, [1819]); *Id. sericeata* (Hübner, [1813]); *Id. mustelata* (Gumppenberg, 1892); *Id. alyssumata* (Millière, 1871); *Id. calunetaria* (Staudinger, 1859); *Id. belemiata* (Millière, 1868); *Id. obsoletaria lilaceola* Hausmann, 2003; *Id. lutulentaria* (Staudinger, 1892); *Id. subsaturata* (Guenée, 1858); *Id. eugeniata* (Millière, 1879); *Id. simplicior* (Prout, 1934); *Id. deversaria fallax* Hausmann, 2003; *Brachyglossina hispanaria* (Püngeler, 1913); *Scopula submutata* (Treitschke, 1828); *Sc. decorata* ([Denis & Schiffermüller], 1775); *Sc. marginepunctata* (Goeze, 1781); *Glossotrophia rufomixtaria* (Graslin, 1863).

LARENTIINAE

Scotopteryx alfacaria (Staudinger, 1859); *Scot. chenopodiata* (Linnaeus, 1758); *Camptogramma bilineata* (Linnaeus, 1758); *Pareulype berberata nevadensis* (Rebel, 1916); *Rheumaptera andalusica* (Ribbe, 1912); *Eupithecia limbata tomillata* Chrétien, 1904; *Eup. alliaria* Staudinger, 1870; *Eup. semigraphata* Bruand, 1851; *Eup. santolinata* Mabille, 1871; *Eup. weissi* Prout, 1938; *Gymnoscelis rufifasciata* (Haworth, 1809); *Aplocera efformata* (Guenée, 1857).

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BIBLIOGRAPHY

HAUSMANN, A., 2003.– New Sterrhinae from Europe, North Africa, and the Caucasus (Lepidoptera, Geometridae).– *Ent. Z.,* **113**(11): 319-328.

HAUSMANN, A., 2004.– Sterrhinae. *In* A. HAUSMANN (ed.).– *The Geometrid Moths of Europe*, **2**: 600 pp. Apollo Books, Stenstrup.

MÜLLER, B., 1996.– Geometridae. *In* O. KARSHOLT & J. RAZOWSKI (eds.).– *The Lepidoptera of Europe, A Distributional Checklist*: 218-249. Apollo Books, Stenstrup.

REDONDO, V. M., GASTÓN, F. J. & GIMENO, R., 2009.– *Geometridae Ibericae*: 361 pp. Apollo Books, Stenstrup.

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